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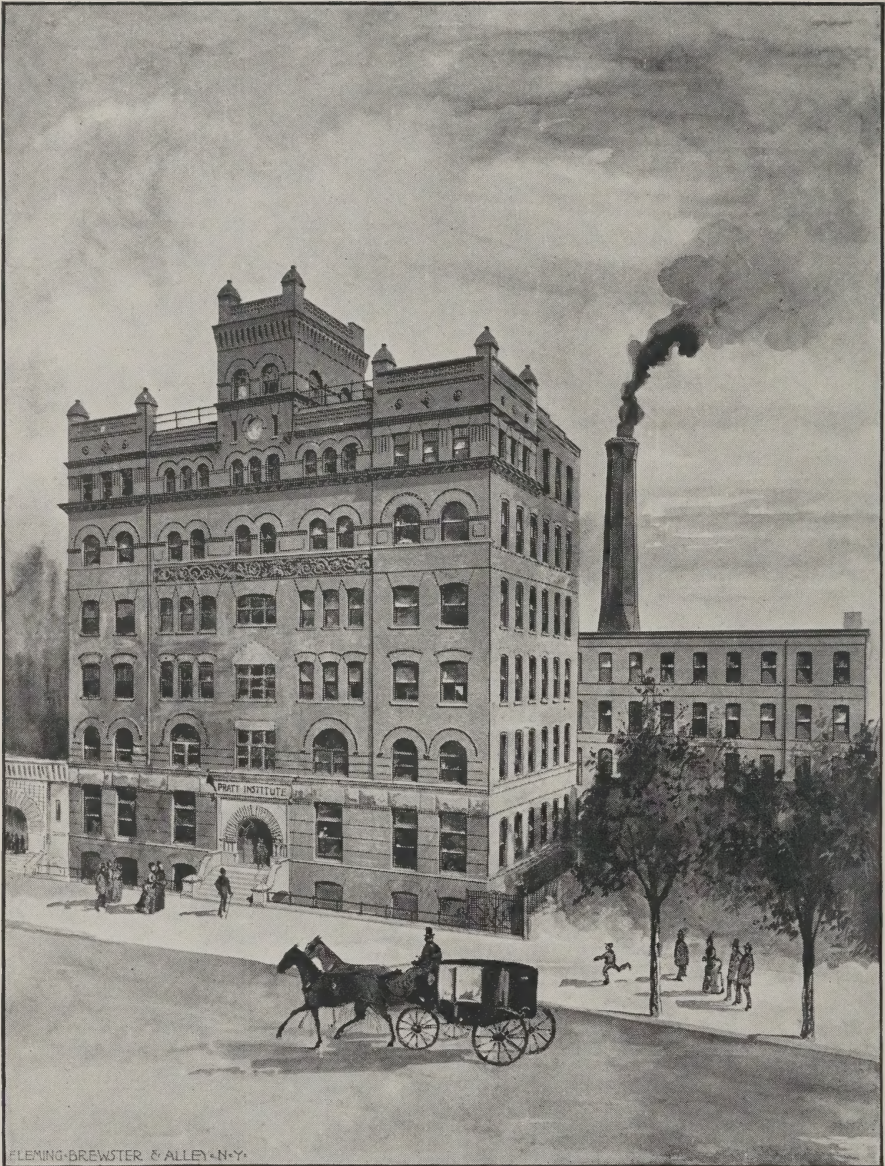
NO. 1

PRATT INSTITUTE RECORD

FOUNDER'S DAY NUMBER



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PRATT INSTITUTE—MAIN BUILDING.
FRONT VIEW FROM RYERSON STREET.

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FOUNDER'S ADDRESS.

TEACHERS, SCHOLARS, AND FRIENDS:—

We meet again on this, the 2d of October, to commemorate Founder's Day of Pratt Institute. One year ago to-day I gave you a hasty outline of our hopes and plans for the first year of real work at the Institute. To-day we meet to look back upon the history of that year and to take an outlook into the one before us. Our organization has had a year in which to show, by practical demonstration, the object for which it was designed. As I look over your work as teachers and pupils I am amazed at the progress made. Twelve months ago we had only a handful of teachers and an institution almost without form or organization. Within the year so much has been done to systematize our efforts that I have new courage, and I wish to tender to you, my co-workers, my heartfelt thanks for your tireless industry and unselfish devotion. I have read your reports, and can see not only the actual work done, but also the spirit of doing it, on the part of both teacher and pupil. There is so much of interest in these reports that it has seemed desirable to have them printed, as you cannot be in full sympathy with the general work unless you are familiar with that of the other departments. May I not ask you, one and all, to read them carefully?

I confess to a little embarrassment to decide which of the many things of interest connected with my experiences in the development of this enterprise should command my attention in speaking to you this morning.

“How shall my child be educated?” is such an old question, and has been answered so many times, and in so many ways, since teaching began, that we cannot hope to offer much that is original, but we have wished to furnish facilities for a trial in Brooklyn of the best type of *combined* academic or high school instruction, with manual training, for boys and girls from about fourteen or fifteen to the age of seventeen or eighteen. The idea in this course, which we have named the Technical High School Department, is not to teach the pupils any trade, but to educate them to work patiently, systematically, and constantly in the use of hand, eye, and brain. We think such as finish this three years' course will, by the combined training of all their powers, be able to decide for themselves what life-work they are best calculated to succeed in, and if they wish to fit themselves for any of our colleges or scientific schools their time here will have been well spent in preparation therefor. Among the elements of value we hope to realize from this course of instruction is an object lesson on the question of industrial or manual training, now being considered by the high schools of so many large cities in all parts of our country.

Perhaps there will be no better place than this to say a few words about our observations of such education as is carried on in Europe. I cannot attempt to give you, at this time, a report, but will simply say that the rapid development of the Institute led me, in April, to ask our secretary, Mr. F. B. Pratt, and my private secretary, Mr. Heffley, to accompany me in a hasty trip to the Old World, to see, if we could, in what lines their longer experience would serve as a guide for us. We visited twenty leading cities in England, France, Austria, Switzerland, and Germany; studied carefully, saw the workings of many schools; learned how to understand and appreciate reports of our consular agents; and as a result have come home convinced that Pratt Institute was not unnatural in its conception, nor vague in its design; and while we did not find anything just like it, we

did find great activity in endeavoring to educate the people in applied art and in specific trade-schools.

The English government, we were told, is spending £400,000, or about \$2,000,000 annually, for the support of the Kensington Museum, and for the establishment in all parts of the United Kingdom of schools of applied art, for encouragement of those branches which pertain to art as applied to the manufacture of articles for household use and adornment, such as the products of clay, iron, silver, and other metals, carved woods, leather and paper, textile fabrics—silk, wool, linen and cotton, etc., etc. We feel that nothing presents so broad a field, or one so full of promise for the American nation, as attention to such things as will tend to educate the people to a knowledge of the artistic as applied to their home life, and to a love of it because they appreciate it.

I have reason to believe that in our own Art Department many have been taught this, and also to realize that certain phases of it lie at the foundation of all industrial pursuits; that it ennobles, that it is an element of civilization, and that the essence of good art is to be found, above all things, in honest and good workmanship.

In the Department of Domestic Science I am sure many have received that courage which comes from a consciousness of being able to do well some specific thing, and from the feeling that a knowledge of household employments is thoroughly consistent with the grace and dignity and true womanliness of every American girl. We must not lose sight of the aim of this department, which is to afford women a training in those branches of science and art which pertain not only to good housekeeping but to home-making—to the preparation of clothing, of economical and wholesome food, and to such knowledge of sanitary and hygienic laws as shall tend to secure comfortable and healthy homes at the least expense. The housewife who knows how to manage the details of her home has more courage than

one who is dependent upon servants, no matter how faithful they may be. She is a better mistress, for she can sympathize with them and appreciate their work when well done.

We especially wish to enlarge our facilities in this department, so as to help those families who must live on small incomes—say, not over \$400 or \$500 per year—teaching the best disposition of this money in wise purchase, economical use of material and little waste. One aim of this department is to make the home of the workingman more attractive.

In the Department of Mechanic Arts the instruction given should be most valuable and important to every thrifty mechanic. The demand is for a better and better quality of work, and our American artisans must learn that to claim first place in any trade they must be intelligent. They must study, learn to draw and read plans, and to know the value of material and why it is used. They must learn to have pride in their work and to love it, and believe in our motto, "Be true to your work and your work will be true to you."

I need hardly dwell here upon the growing demand upon the Department of Phonography and Typewriting, the work of which has been most satisfactory. Popular as these studies have become, it should be borne in mind that mere speed, without intelligence, will not meet the requirements. Accurate and perfect work alone will give satisfaction.

I am not a musician, but it has always seemed to me that a musical notation which would bring the principles of music within the comprehension of the people would have a sound and healthy influence, and so we were led to give the "Tonic Sol-fa System" a trial, as the one best adapted to this end.

Much material has been added to the Technical Museum during the past year. We have no intention of making a collection of mere curiosities, but to obtain objects which can be used in connection with the instruction given in the different departments of the Institute.

When men have dealings with money matters in any form they touch human nature in a sensitive spot. There is no one subject in connection with this work upon which I have such peculiar feelings as when a poor man comes to pay his hard earned wages for the education of his child. Instinctively my feeling is to say, "Don't take the money"; but in my cooler and calmer thoughts, the judgment, formed after long and patient study of human nature, tells me that it is wiser and better for every one to pay a part at least of the cost of this education.

To keep the Institute abreast of the opportunity open to it will require constant enlargement. We are in a growing city, full of young life, the centre of a great population; we have embarked in a broad and comprehensive enterprise, and if it fulfills its ideal, each year will make larger and larger demands for construction and maintenance. While living, and having the ability, I shall be glad to do all I can to build up and develop the Institute and to provide as much as possible for the future, but an endowment alone is limited and uncertain at best, and if we plan to build for the future we must have the financial basis on solid principles. So we conclude that the wise way is to do as we have done—to use money freely for building and equipping the Institute with the best facilities, and then aim to have the receipts from tuition support the departments as far as possible.

The large number of students whom we are able to accommodate will justify us in employing the best talent, and giving full value for any charges made. It should be remembered that in some departments the present cost of material consumed by the pupil is alone equal to the full tuition charged.

As for the work of the Library, I have become so much impressed with the far-reaching influence of good books as distributed through a free library that I have been anxious to enlarge our own work in this line. Hence, until we see good reason for doing otherwise, all money received for tuition by the Institute will be devoted to enlarging our present Library, which is

free, and in establishing and maintaining branch libraries and reading rooms in different parts of the city as fast as circumstances seem to justify.

The fixed charges of a manufacturing concern are often more than the pay-roll of the men; hence it is important that the factory should run as many days as possible in the year, and as fully as possible each day. The same is true of the Institute. Were we to base our calculation as in a thrifty business, we should estimate that it would entail a loss of from \$400 to \$500 for every day the work was suspended. This should impress upon both teacher and scholar the great loss sustained by absence from any session. As a special inducement to this end, we hope to offer some kind of reward to those conspicuous for prompt and regular attendance.

The demand for good kindergartners has led us to establish a kindergarten in connection with the Institute. We hope not only to organize a model kindergarten, but to develop, by means of a normal class, teachers who shall carry on the work in different parts of the city according to the best and most approved methods. To this end we have appropriated a part of the fine studio building on Vanderbilt Avenue, which is well adapted to the purpose.

So much good work is now being done by Summer Schools that we have been often asked whether the Institute could not be kept open at this season also. Should it appear that there is a demand for this, we shall be glad to arrange if possible to have it done. If any one who reads this report should wish to avail himself of such an opportunity, and will so advise us, it would assist us in determining in what departments this provision should be made. It may be of interest to know that board in the best localities can be obtained during the summer months at much reduced rates.

The need of more room in immediate connection with the Art and Domestic Science Departments, as well as for the Tech-

nical High School Department, has led us to make large additions to our present buildings. With these and the changes made in the Mechanic Arts buildings, we have provided something over 20,000 square feet of additional floor space for the use of students for the coming year.

We still need a large assembly hall, class rooms and appliances much beyond our present supply, and we hope before another Founder's Day that we may be able to realize these expectations.

During the year the unoccupied land in front and in the rear of the Institute has been graded and made into play-grounds. What limits or rules should govern their use, experience has not made clear. They are for your use, and if they can be better adapted to any particular purpose by a reasonable expense for construction, we shall be glad to consider any recommendation.

After this hasty review, many things of interest in connection with the work are pressing upon us, but no one thing seems to be so important to undertake as education on the subject of thrift, and to this end we offer the following scheme :

The instruction given in the Institute is intended, in part, to enable people to become self-dependent. Pupils are taught some useful work by which they can earn money. It seems a natural thing, in carrying out this part of the plan, that the next step should be to endeavor to teach them how to save this money ; or, in other words, how to make a wise use of it. It is not enough that one be trained so that he can join the ranks of the world's workers and become a producer ; he needs quite as much to learn habits of economy and thrift in order to make his life a success.

During the past year there have gone out from the Institute more than thirty persons, who, from the instruction received here, are to-day earning an average of \$500 per year, or \$15,000

together. This is more than the interest on \$500,000 invested in government bonds. We wish to help these young people to a knowledge of the proper use and care of this large income.

In view of the above, we have been led to contemplate a new, and, we believe, a very important step, namely, the establishment of a Savings Department in connection with the other work.

To the development of this plan and the working out of these problems, it is proposed to form an association to be called "Pratt Institute Thrift Association," but for convenience it may be known as "The Thrift." After much thought and study we have adopted, in a somewhat modified form, a system which has met with marked success in England and is not unlike many of the mutual building and co-operative saving associations in this country. The aim of the Association will be to encourage its members to habits of thrift; to help them to become prudent and wise in the use of money and time, by offering them a safe and simple method whereby they can make regular monthly payments for the purpose of accumulating a fund for buying or building their own homes; or for loaning to such persons as want to borrow for this purpose, and to do any and all such things as experience shall prove essential to the accomplishment of these objects.

We desire to interest and secure the co-operation of teachers and parents, so as to make this branch of the Institute a means of educating the people in all such matters as relate to finance or to the wise use of money.

MEMBERSHIP.—Any person, whether he be an attendant at Pratt Institute or not, may become a member of the Association upon complying with the regulations, with the understanding, however, that the management at any time will have full power to close any account or membership, without giving notice or reasons, by refunding the money, with interest.

The work of the Association divides itself into two branches, the Investment Branch, and the Loan Branch, all its members

being either those who are saving money by purchase of Investment Shares, or are borrowing for purchase of private property.

INVESTMENT BRANCH.—The first practical step must be to afford opportunities for members to save and deposit their money, and we wish to offer the best possible inducements, consistent with safety, to secure method and regularity in the manner of saving. The object is to have the payments small, so that the largest number of persons may be able to share in this plan.

The Investing Shares of the Association—to which no liability attaches—are \$150, payable at the rate of \$1 per month for ten years. The monthly payments on each share amount, in ten years, to \$120, and the accumulated interest, at the rate of 5 per cent. per annum, to \$30, making \$150 in all; in addition to which, provided the installments are regularly paid, each share at the end of the ten years will be entitled to a percentage of the profits of the business, which we hope, if the business equals that of some English companies, will amount to \$5 or \$10 per share more. In other words, a monthly payment of \$1 is expected to amount, with interest and premium, to \$160 at the end of ten years, or about 6 per cent. per annum on the subscription paid to the Association.

It is not the intention to offer a high rate of interest so as to induce the deposit here of funds already invested in savings banks, or elsewhere, but rather to encourage, in young and old, the habit of regular, systematic economy and saving in small amounts.

One hundred and fifty dollars in one sum pays for a share in full, in which case the interest is payable half-yearly, at the rate of 4 per cent. per annum, the holder being entitled, at the end of ten years, to the same premium as that receivable by members who pay for their shares by installments.

Shares can be withdrawn at any time; and although the society may, under its rules, require one month's notice, they hope to be able and will endeavor to repay subscriptions on demand.

and without notice. No interest will, however, be allowed on shares payable by installments if they be withdrawn within two years of their issue.

Shares may be held by minors, and by trustees and guardians on behalf of others; and by wives in their own names, and for their separate use, and they may sign receipts for interest and principal.

TABLE SHOWING HOW MONEY MAY BE ACCUMULATED.

One share at \$1 per month, involving a saving of 4 cents per day for 300 days, amounts, with interest and premium, at the end of ten years, to \$160.

One share at \$1 per month, about 4 cents a day, to	\$160
Two " " 2 " " " 8 " "	320
Three " " 3 " " " 12 " "	480
Four " " 4 " " " 16 " "	640
Five " " 5 " " " 20 " "	800
Six " " 6 " " " 24 " "	960
Seven " " 7 " " " 28 " "	1,120
Eight " " 8 " " " 32 " "	1,280
Nine " " 9 " " " 36 " "	1,440
Ten " " 10 " " " 40 " "	1,600
Eleven " " 11 " " " 44 " "	1,760
Twelve " " 12 " " " 48 " "	1,920
Thirteen " " 13 " " " 52 " "	2,080
Fourteen " " 14 " " " 56 " "	2,240
Fifteen " " 15 " " " 60 " "	2,400
Sixteen " " 16 " " " 64 " "	2,560
Seventeen " " 17 " " " 68 " "	2,720
Eighteen " " 18 " " " 72 " "	2,880
Nineteen " " 19 " " " 76 " "	3,040
Twenty " " 20 " " " 80 " "	3,200

By steady perseverance in saving, therefore, every person can make some provision for the future, however limited his income, by joining "The Thrift." In addition to this, what we estimate to be of more value than the money is the growth of character which is developed by the self-denial and personal sacrifice required in making this saving.

The foregoing explains the manner of saving money by deposits in the Investment Branch. Now the question is—How can we use this money safely so as to produce a rate of interest that will be encouraging to those who save it? It is proposed to loan it to persons for the purchase of homes and to have the loans so made that they can be paid in small monthly installments in place of rent, so that after a term of years the home will belong to the member taking the loan.

This part of the enterprise will be termed the

LOAN BRANCH.—Sums of any amount will be loaned for the purchase of private houses, shops and other real property, but it is the special object of the Association to encourage the purchase of dwelling houses by persons for their own occupation; and all applications for advances with this object in view will be dealt with in the most liberal manner consistent with security.

The Association will not purchase or build houses, but simply make advances for this purpose. The amount which will be advanced will be regulated according to the valuation of the property by the Association's officials; and of this value a tenth part at least will have to be provided in advance.

In order to cover the cost of doing the business—such as general office expenses, searching records, guaranteeing titles, etc., and to keep the rate of interest low, as well as to establish a permanent security fund, there will be charged a commission of one per cent. per annum on the sum advanced, which sum, if desired, can be added to the loan. This is based on the experience of the best English societies, though we shall modify these charges from time to time as our own experience shall justify.

The option will always remain with the borrower to pay the loan in full, at any time, if he shall prefer to do so.

Loans will be repayable by monthly installments, commencing on the first day of the month following the date of the mortgage; or in any other manner that may be arranged so that the

repayments shall not extend over more than twenty-one years. The monthly installments are to totally extinguish principal and interest, and when they are all paid the house will become the property of the borrower.

So long as the installments are paid regularly, the loan cannot be disturbed; but the borrower can at any time make additional payments on account of the advance, and thus either shorten the period during which the installments are payable or reduce their future amount; or the mortgage may be canceled at any time by paying the present value of the future installments.

TABLE SHOWING THE MONTHLY PAYMENTS REQUIRED,
COST OF LOAN, ETC., FOR A LOAN OF \$1,000,
FOR A PERIOD OF TEN YEARS.

	INTEREST ON LOAN AT		
	5 p. ct.	5½ p. ct.	6 p. ct.
Monthly dues	\$10.90	\$11.10	\$11.40
Total dues, 10 years	1,308.00	1,332.00	1,368.00
All other charges (\$10 per year)	100.00	100.00	100.00
Total cost for 10 years	1,408.00	1,432.00	1,468.00
Amount borrowed	1,000.00	1,000.00	1,000.00
Actual cost of loan	408.00	432.00	468.00
“ “ “ per year	40.80	43.20	46.80
“ “ “ per cent	4	4½	4⅙

As an illustration of the working of “The Thrift,” the case may be taken of a member occupying a house in Brooklyn, for which he pays a rental of \$300 per year. The price is \$3,000, of which amount he pays, say \$400, and obtains \$2,600 from “The Thrift.” If the advance be granted for fourteen years, at 6 per cent. interest, the payments to the Association will be about \$30 per month, or about \$360 per year, inclusive of city, county and water taxes, insurance and commission. By selecting a longer period for the redemption of the advance, these payments can be reduced. At the end of fourteen years, if the installments be regularly paid, he becomes the absolute owner of the house, while as a tenant he would have paid his landlord

during the period almost the same amount of money without becoming the owner of a single brick.

In the event of borrowers, from adverse circumstances, being unable to keep up their subscriptions, the society has power, after three years' installments have been paid, to suspend, without fines, all further payments for twelve months.

Through the aid of the society, therefore, any person may become the owner of the dwelling-house he occupies as a tenant, by an annual payment, for a limited period, very little in excess of the regular rent.

HOW TO OBTAIN AN ADVANCE.—The first step to be taken after the member has selected a house, and ascertained the price, is to obtain from the office a Form of Proposal, which must be filled according to the instructions contained therein.

The property is then examined and a report made to the managers, by whom the amount which can be wisely advanced is determined.

As every application for an advance is considered on its own merits, it is impossible to state the amount which will be lent, or to fix the rate of interest, until the property has been inspected by the Association's officials; but in all cases applicants will be dealt with on the most liberal terms consistent with security.

The firm of Charles Pratt & Co. have executed a bond in the sum of \$500,000 to indemnify and protect all persons having financial relations with the Association.

Rules for the conduct of the business will hereafter be adopted and modified from time to time, as experience suggests.

The office of the Association will be open and ready for business on the second day of October, from 7.30 to 9.30 P. M., and at such other times as may be determined. Circulars of information will be furnished by mail, or upon application at the office.

All communications should be addressed, "The Thrift," Pratt Institute, Brooklyn, N. Y.

REPORT OF THE SECRETARY.

The first complete year of Pratt Institute has closed, and it is with much satisfaction that we look back upon its record of progress and growth. While the work has been to a large extent experimental, occasioned by the newness of the subjects taught, and the different classes of pupils, the results have shown that the line has been in the right direction.

Perhaps there is no better indication of this fact than the general enthusiasm awakened among the people of Brooklyn, as well as among all interested in industrial education throughout the country. Our pupils and patrons, too, have been made up to a very large extent of those who have felt the need of the course of instruction given, and have expected to derive practical aid from it.

Instruction has been carried on by a large corps of competent teachers in each department. In those branches which were new, the difficulty of obtaining well-trained, intelligent and earnest instructors has been great. It is our desire to secure the best possible talent in every department undertaken.

To organize more thoroughly the work of the Institute, and to direct the departments toward a common purpose and end, and to discuss those questions touching on the work of the Institute, faculty meetings have been held weekly. These meetings have proved a source of benefit to all, as they have not only made each department more thoroughly acquainted with every other, but have been a source of inspiration and emulation.

So far as it has been possible the heads of the several departments have visited the best schools in this country and in Europe, and have informed themselves as to the work being done elsewhere.

Though no certificates or diplomas have been given, the work of the pupils has been very creditable. At the several exhibi-

tions held during the year, and especially at the meeting of the State Teachers' Association in July, with the Institute as their headquarters, our work compared favorably with that done by other institutions.

The number of individual pupils in attendance at the Institute during the year was 2,199.

Aside from the industrial and educational section of the Institute there has been a vast amount of general work.

The three main Institute buildings in themselves have to some extent been erected experimentally, and have been apportioned to the several departments as fast as the demand came. Thus far the supply of available space has equaled the demands, but during the summer months three additional stories, with an area of some 20,000 extra square feet, have been added.

The best way of equipping and furnishing the different departments with models, apparatus, desks, machinery, decorations, and the thousand and one things which are essential to a complete and perfect school, has taken much time and thought. The repairs, the care of the buildings, the janitor service, are items not always taken into account when considering the Institute in its entire scope.

The heating and lighting of the buildings, and the power required for machinery have been under the charge of the engineer's department. The equipment of the engine room consists of two 100-horse-power boilers, a Harris-Corliss engine, three electric light systems—an Edison, Thomson-Houston and Western Electric—several pumps for fire and exhaust steam, and a small power engine for driving light machinery. Oil has been used as fuel with a great saving in the way of cleanliness and ease of manipulation, and at somewhat less cost. During the summer and holidays the engineer and assistants have been employed in general construction, pipe and steam fitting and electric light wiring.

In the basement of the Main Building, and occupying the

whole of the north side, is the Lunch Room, the object of which is to give to all who may choose to patronize it a wholesome, warm luncheon at a reasonable price. Dinners have been served every day from 12 to 2 o'clock, and suppers three nights a week from 6 to 7 P. M. The average number in attendance per day has been 70, and the largest number 110. This department has been put in charge of an experienced caterer in order to increase its usefulness another year.

Probably the most busy place throughout the whole year has been the General Office. The work done here has consisted, in part, of the reception and enrollment of pupils, the receiving of tuition fees, which are charged in all departments except the Library, the payment of bills for equipment and running expenses, general correspondence, and the issuing of permits to visitors, of whom several thousand have inspected the buildings and the work of the students.

A considerable amount of printed matter, in the way of circulars of information, rules and regulations, and application blanks, has been distributed.

The office has been open daily, and on Monday, Wednesday and Friday evenings of the fall and winter terms.

As far as possible the work of the Institute has been divided into departments, and the subjoined reports which have been prepared by those in charge of these departments give an idea of what has been attempted and accomplished.

One of the most perplexing and important questions has been the relationship of the Institute to outside schools and pupils. As far as practicable, afternoon sessions in nearly all the classes have been held for the purpose of supplementing in manual work the courses of study given elsewhere.

The Technical High School Department is intended to be a stepping-stone from other schools to the special work of the Institute, as well as to further scientific and artistic study in university courses.

TECHNICAL HIGH SCHOOL DEPARTMENT.

The report of the Technical High School Department for the year 1888-9 is practically a report of that department since its organization, for it was not until late in the year 1887 that it was fully decided to establish such a course, and the work done previous to June of the following year was in a very small and somewhat irregular way.

It was originally intended to make the work of the Institute purely manual, but the necessity of giving an opportunity for obtaining a complete education—one which should include manual and mental work—came to be felt more and more, and as a result of much thought the Technical High School Department was begun.

The department aims to give a thorough academic education, combining with the usual studies of such a course enough free-hand and mechanical drawing and manual work to secure a symmetrical development by the training of eye, hand and mind.

It does not aim to fit pupils for any particular occupation or class of occupations, but to give them the best preparation possible, within the limits of a three years' course, for higher institutions of learning—especially advanced scientific schools—for business or for any other pursuit.

ADMISSION.—As much of the work of the Institute is planned to supplement that done in other schools, so in this department the standard for admission is such that a pupil who has graduated from the public schools, or who has done equivalent work elsewhere, should be prepared to take the entrance examinations. Occasionally, a pupil somewhat less advanced is found qualified to take up the studies of the entering class.

COURSE OF STUDY.—At the beginning of the year the course of study, although quite definitely outlined, had not been

determined in all its details, but by degrees it has taken shape, till now it stands practically complete, and is, in general, the same as the courses pursued in the best academies and high schools, viz:

FIRST YEAR.	SECOND YEAR.	THIRD YEAR.
<i>First Term—</i> Algebra, English, Physiology.	<i>First Term—</i> Geometry, General History, or Latin, Physics.	<i>First Term—</i> English Literature, Civil Government, Chemistry, Principles of Construction, French.
<i>Second Term—</i> Algebra, English, Physiology, Physical Geography.	<i>Second Term—</i> Geometry, General History, or Latin, Physics.	<i>Second Term—</i> English Literature, Political Science, Chemistry, French.
<i>Third Term—</i> Geometry, Rhetoric, Physical Geography.	<i>Third Term—</i> Trigonometry, English History, or Latin, Book-keeping, Physics.	<i>Third Term—</i> English Literature, Political Science, Chemistry and Metallurgy, French.

The course has been made to include those studies which are required for admission to the advanced scientific and other schools to which our pupils may naturally go, and at the same time it has been made as complete as possible for those who do not expect to continue their studies after graduating. Some important studies have been omitted, but only because it seemed wiser to take fewer branches, insisting upon thorough work, than to attempt a greater number than could properly be completed within the three years of the course.

As an integral part of the course, and side by side with the literary work, stand the drawing and manual work to which there are devoted, respectively, one and two periods daily.

This feature of the department has not been introduced as

an attractive novelty, nor to supersede the work usually done in high schools or academies, but because of the strong conviction that an education is necessarily incomplete if it aims at the training of the mind alone, and because of the belief that it is only by a combination of head and hand work that harmonious, complete development is possible.

CLASS-ROOM WORK.—The studies which have been completed by the Second Year Class during the past year are physics, algebra, geometry, general history, English history and book-keeping. Special instruction in elocution has also been given to the class during the spring term.

The studies of the First Year Class have been algebra, physiology, physical geography and English.

In all the above branches the evidence of daily recitations and of examinations is that much faithful work has been done both by teacher and pupil. The coming year, however, with improved facilities, with fully equipped laboratories, and with the experience of the past, we may reasonably look for much better results.

EXAMINATIONS.—Pupils have at proper intervals been examined both orally and in writing upon their studies; at the same time they have been given distinctly to understand that in estimating the quality of their work in a given study daily recitations would be the chief factor considered, though all examinations would also be taken into account. In this way they have been made to feel that greater importance was attached to faithful, daily work than to any special tests.

MUSIC.—The value of music in education is now generally recognized. Certainly no high school course is complete without it. During the greater part of the year a weekly lesson of half an hour's duration has been given by the regular instructor in music. It is especially difficult to teach music to pupils of the age of ours, because of the change which their voices are undergoing, but, notwithstanding this, the results secured have been

very encouraging, as with few exceptions the members of both classes have passed the requirements for the junior certificate.

DRAWING AND MANUAL WORK.—The details of the drawing and manual work are given in other reports. The pupils have taken hold of both these with interest and have accomplished good results. Work of this kind is a novelty to them, and because of the fact that it is a distinguishing feature of the Institute there is danger that it may seem to them of greater importance than their studies, but it should be possible to preserve a proper equilibrium between the intellectual and the manual, and to bring pupils to a real appreciation of the importance of both in a symmetrical education.

MANUAL WORK OF THE GIRLS.—It was not known till the fall term opened that there were to be girls in the entering class, and consequently no definite provisions had been made for them. They have done the same class-room work as the boys, and have done it well. Instead of shop work they have had two lessons a week in sewing, two in wood-carving, and for the first two terms one lesson weekly in cooking.

There is no reason why it is not possible to plan the course for girls so as to make it as valuable to them as the boys' course is to the boys. To do this it should be made to cover the entire range of work offered by the Department of Domestic Science, and in addition should furnish opportunities for special work in the Art Department.

LIBRARY.—The library of the Institute has been of very great service to the department, and later, when literature and kindred studies are taken up, will be of even greater value. Few schools are situated so that pupils can obtain reference and other books as readily as can ours, and we are consequently peculiarly well situated to create and stimulate in our pupils a love for reading the best books. We have taken a step in the right direction in preparing and posting on bulletin boards near the class rooms lists of books bearing upon the studies of the

different classes, and much more will be done another year in the same direction.

IN GENERAL: The above record of the year's work is all that could reasonably be expected.

We have labored under numerous disadvantages. The many unfavorable conditions incident to the starting of a new department have interfered materially with the progress of regular, daily work, but these have by degrees been overcome, and we have reason to look for excellent results another year.

It is especially important with pupils of high school age that the conditions surrounding them be as favorable as possible, for we are responsible not only for the quality of their work, but also in a great measure for the habits of industry, order, obedience, and of general conduct which shall follow them in their after life.

The accommodations, equipments and instruction should be of such a nature that every pupil shall feel a personal pride in the department, and shall enter so heartily into the spirit of the Institute that we may impress upon him the character which we wish all our students to bear.

ART DEPARTMENT.

The object of this department is twofold: First, to enable pupils to acquire a knowledge of the subject matter of the various courses, and second, to lead them to make a practical use of the knowledge gained. Naturally, the pupils have great diversity of talent, and while some will be unable to gain any remunerative return from the course of study, and others will reach but mediocrity, many will be able to obtain desirable positions as teachers, illustrators, designers, and draughtsmen. To all classes, however, come a breadth and a power to see and to enjoy more in the world around them which no other course of study could so well promote.

Free-hand, architectural and mechanical drawing, wood-carving, clay-modeling and design are the general divisions of study. The school year is divided into three terms. Various classes have met in the morning, the afternoon, and the evening; and while some of the students remain at the Institute but a limited time, a great many enter for two to four years' study.

The enrollment for the past year was as follows:

Morning classes,	183
Afternoon classes,	123
Evening Free-hand class,	83
Evening Mechanical class,	74
Evening Architectural class,	66
Technical High School Dept. Morning classes,	40
Mechanic Arts Department. Afternoon classes,	69
Total enrollment,	<u>638</u>

The especial object of each branch of work is explained below:

MORNING CLASSES.

NORMAL AND ART COURSES.—The work in free-hand drawing, covering the first ten subjects of the prescribed course, forms the basis, not only of the Normal and Art Courses, but also of applied design, clay-modeling, and wood-carving. A variety of subjects is embraced in order that students may discover any aptitude which they have for work in a special direction, while pursuing at the same time a thorough and systematic course of study fundamental to all art work. During the first two years the Normal and Art Courses are much alike, for it is proposed to give the pupil who goes out as a teacher or supervisor of public school work, or as a teacher in an art school, something beyond what he will teach his pupils.

Commencing the first of December, 1888, the thirty-five members of the Normal class met five mornings each week. On two of the mornings they received special normal instruction in addition to their regular art work. To give practice in teaching,

exercises were assigned to the students, and each one in turn took the class and taught the lesson in drawing which she had been selected to prepare. Then the members of the class, and the instructor in charge, criticised the work as to its good points and as to its defects. By this method the students become conversant with the best methods of teaching.

The Regular Art Course is planned with reference to the development, upon a broad foundation, of all the artistic ability a pupil may possess. Many lines of decorative and artistic work are open to the pupils taking this course. Not only have students received the usual class instruction, but afternoon lectures have been given in anatomy, etc., and a sketch club organized, the members of which by turn pose in costume.

The wide field of illustration is open to the earnest student; several now in the school will be able to do successful work in this direction. To promote this work, and to create an interest in the subject, the pupils have been required to present a specified number of sketches each week. These drawings have embraced a variety of subjects—still life, bits of architecture, human figures, etc., and have been made with pencil and with pen and ink. The pupils have been much interested, and have produced some very creditable work.

PRACTICAL DESIGN.—As all students are required to successfully finish a preliminary course in free-hand drawing, some time elapsed before design proper was reached. On account of this, and because of the purpose to make the department of applied design as comprehensive and practical as possible, much time was consumed and many efforts made to secure an instructor competent to meet all future demands, and definite work did not begin till April, 1889. The course of study is planned to give students thorough instruction in the principles which govern decorative design, and also in the technicalities of the processes involved in the manufacture of textile fabrics, wall paper, etc. Many pupils have already taken up the work, and

are rapidly progressing. Much is expected from this course of study next year.

CLAY MODELING.—Clay modeling holds an important place, because it is a great aid to free-hand drawing. Considered as drawing alone, it is an excellent study, inasmuch as it is drawing in three dimensions. Work began May 3, 1889. The close of the term was near, and owing to this the work has been only elementary. As it progresses, in addition to the present instructor, another will be engaged, for it is greatly desired to advance this department until it shall include sculpture.

Clay modeling is taken in the normal course because of the prominent place it is coming more and more to hold in public school work. During the last term the advanced pupils modeled from casts, made original designs, and practiced the work required in public schools.

Clay modeling, with design and free-hand drawing, forms the basis of the wood-carving, and will be the foundation of the proposed class in artistic metal work. The wood-carving pupils have had three lessons each week in clay modeling. It has also been taught a class of boys from the Technical High School Department.

WOOD-CARVING.—The class in wood-carving was organized last October. The pupils have shown much enthusiasm, and their work has been most satisfactory. The work has taken a practical direction, and the articles made are not only useful, but of artistic value. As an additional help the majority of the students have taken an afternoon course in light carpentry.

ARCHITECTURAL AND MECHANICAL DRAWING.—The course in architectural and mechanical drawing, covering two years, is especially prepared to fit students to become draughtsmen. Pupils of the architectural class are required to work out complete sets of drawings, with measurements, illustrating every detail of frame, brick and stone houses. Instruction is also given in the most approved methods of construction, in the

properties of materials, in free-hand, and in perspective drawing, and in the history of architecture and ornament.

The course in mechanical drawing is similar in its practical aims and relates to the draughting of machinery and the elements of mechanism.

TECHNICAL HIGH SCHOOL DEPARTMENT.—The pupils have been required to give one hour each day to drawing. They first made working drawings of the different joints, etc., made in the bench-room. Later they took lessons in design and originated patterns for handles, napkin rings, rosettes, etc., which they afterward turned on the lathe. One class took clay-modeling, one term, and next year will do much work in free-hand drawing, in addition to instrumental work.

The advanced class was given a course in architectural drawing, and, together with the pupils of the art course, attended a series of lectures on the History of Ornament and Architecture. Next year they will go on with more advanced mechanical drawing and will also give considerable attention to the elements of mechanism.

AFTERNOON CLASSES.

A small afternoon class of twelve to fifteen pupils was organized for free-hand drawing, in October, 1888. A large addition to this class was received in January, 1889, and another class formed in April. For the school year, 123 names were enrolled in this class.

EVENING CLASSES.

During the fall and winter terms evening classes met three nights a week. The course, though similar to that of the day classes, is of necessity abridged. Much earnest work has been done and the total number attending was 223.

CLASS OF PUPILS.—With most of the pupils in the Art Department the matter of partial or entire self-support will be a necessity. Knowing this, they are earnest and interested in

their studies, and work with a purpose, making thus a class of pupils with whom a teacher is glad to come in contact and to aid in every way.

Some of the young ladies who do not feel a present necessity of seeking remunerative employment recognize what is coming to be more and more felt, that every woman should be so trained and educated as to be able to be self-dependent.

POSITIONS SECURED.—A number of the young men have obtained positions as draughtsmen, and several of the young ladies have secured employment in various ways. Three of the students of the Normal class, who had received previous instruction, have been elected to fill important positions as teachers of drawing, and though the school has been opened but a short time, yet many letters have been received asking if our pupils can be recommended.

INSTRUCTORS.—There are six teachers who are in daily attendance, two who come for three days, and five for evening classes. Next year the number of instructors will be increased. Great credit is due the teachers in charge of the different classes for the faithful, enthusiastic, and conscientious way in which they have discharged their duties.

The work of the teachers can be somewhat estimated from the following table, giving the attendance of one week of the second term :

129 pupils who came 5 days,	making 645 visits each week.
47 " " " 3 "	" 141 " " "
47 " " " 2 afternoons,	" 94 " " "
42 " " " 1 "	" 42 " " "
157 " " " 3 evenings,	" 471 " " "

Total, 422 pupils.

Total, 1,393 visits every week.

The growth of the school, the excellent spirit of the pupils, the earnestness of purpose and the results of the work are certainly matters of encouragement, and an incentive to make the school second to no other of its kind.

DEPARTMENT OF DOMESTIC SCIENCE.

The aim of this department is to afford women a thorough training in those branches of science and art which pertain to good house-keeping and home-making, and to furnish opportunities to those desiring to support themselves, by educating them to become skilled workers in whatever branch of domestic industry they may choose, whether house-keeping, cooking, dress-making, sewing, millinery, or art needle-work.

We believe that beyond a common school education there is no knowledge so valuable to any woman, whatever her station in life, as a practical knowledge of the pursuits which tend to make home comfortable and happy. Nor is this value confined to the practical results. The training itself has been proved to educate and develop the mental and moral faculties. The clearest mind invariably accompanies the best manual work.

The branches of industrial education taught in this department are cooking, sewing, dress-making, millinery, art needle-work, hygiene and home-nursing.

COOKING.—The complete course consists of three graded courses of three months each, one lesson per week. It includes instruction in the chemistry of foods and the theory of cooking, and the practical working out of such instruction in class and at home; talks are given on table service, and lectures on the cutting of meats and on the purchase and care of supplies.

A certificate is given upon the satisfactory completion of the course and examinations.

The cooking classes opened January 20, 1888, with 107 pupils; at the close of June there had been 193 pupils in this branch of the department, of whom 47 continued from the first to the second course.

The pupils in this year's classes number 782. Of these, 50 have gone through the entire course or have taken the equiv-

alent examinations, and 14 are to have certificates awarded them.

Fall term.—Enrollment, 252; average attendance, 214; dishes cooked at home, 5,034.

Winter term.—Enrollment, 349, of whom 121 had satisfactorily completed the first course; average attendance, 286; dishes cooked at home, 5,992.

Spring term.—Enrollment, 181, of whom 42 had completed the second course; average attendance, 151; dishes cooked at home, 3,230.

SEWING.—These classes meet once or twice per week and prepare pupils to enter the dress-making course, teaching careful hand and machine sewing and the cutting and making of simple garments and cambric dresses.

The sewing classes opened February 23, 1888, with 62 pupils, and continued through June, there being in all 71 pupils, 9 continuing from the first to the second course.

This year's sewing pupils number 369, of whom 30 have taken both courses.

Fall term.—Enrollment, 93; average attendance, 72; garments made during fall and winter term, 50.

Winter term.—Enrollment, 132; average attendance, 106.

Spring term.—Enrollment, 144; average attendance, 125; garments made, 74, of which 7 were dresses.

DRESS-MAKING.—The complete course consists of three graded courses of three months each, one lesson per week. Pupils are taught to cut and make dresses from pattern, to use a system of drafting from measure by chart, and to apply the same to plain, polonaise and princess dresses, tea-gowns and children's dresses.

Some talks were given on color and drapery, and on taste in the style and selection of fabrics, which subjects will be treated more fully in the future.

The dress-making classes opened March 19, 1888, with 62 pupils, 7 of whom entered the second course in April.

This year's pupils number 415; dresses made, 313.

Fall term.—Enrollment, 99; average attendance, 91; dresses made, 94.

Winter term.—Enrollment, 150; average attendance, 139; dresses made, 112.

Spring term.—Enrollment, 166; average attendance, 153; dresses made, 107.

MILLINERY.—The complete course consists of three courses of three months each, one lesson per week. Pupils are taught to cover and trim stiff-crowned hats, soft-crowned bonnets and toques, lace hats and bonnets.

Instruction has been given in the combination of colors and the study of shapes and lines. This instruction will be carried further in the future.

The millinery classes began work April 25, 1888, with 32 pupils.

This year's classes number 256 pupils, of whom 70 continued from the first to the second course; 12 took the entire course. 243 hats and bonnets were made or trimmed.

Fall term.—Enrollment, 31; average attendance, 29; hats made, 31.

Winter term.—Enrollment, 107; average attendance, 95; hats made, 118.

Spring term.—Enrollment, 118; average attendance, 94; hats made, 94.

ART NEEDLEWORK.—These classes were opened with the winter term, and divided into two courses of three months each, one lesson per week.

Instruction was given in the different stitches, and later an original design of the pupil was applied to an appropriate piece of work. Much fuller instruction in design has been arranged for the coming year.

The number of pupils for the year was 41, of whom 17 passed from the first into the second course.

Winter term.—Enrollment, 19; average attendance, 14.

Spring term.—Enrollment, 22; average attendance, 17.

HYGIENE AND HOME-NURSING.—These lectures were begun in January, the course being one of three months, one lecture per week. They included instruction in the outlines of anatomy, physiology and hygiene; the treatment of accidents, care of the sick-room, and the administration of foods and medicines.

Demonstrations were given, by the head nurse of the Seney Hospital, on the making of beds for the sick, poultices, etc.

Number of pupils for the year, 52, of whom 9 took a second course.

Winter term.—Enrollment, 33; average attendance, 30.

Spring term.—Enrollment, 19; average attendance, 17.

SUMMARY.

Cooking, . . .	43	classes;	782	pupils;	14,256	dishes.
Sewing, . . .	27	"	369	"	124	garments.
Dress-making, .	37	"	415	"	313	dresses.
Millinery, . . .	14	"	256	"	243	hats.
Art needle-work,	5	"	41	"	8	pieces.
Hygiene, . . .	4	"	52	"		
	<hr/>		<hr/>			
	130		1,915			

The number of individual pupils, 1,223.

The number of instructors, 19.

DEPARTMENT OF MECHANIC ARTS.

The class work of the department, for pupils of the Technical High School, began on September 24, with twenty-six pupils of the first year and thirteen of the second year. The second year class passed from their bench work to wood-turning, and then to pattern-making. They entered the foundry March 6,

and began forging May 6. The first year class remained in the wood-room until May 6; at that time they took up foundry work, which they finished with the end of the term.

There have been three afternoon classes in shop work and drawing, one commencing October 9, taking two terms' work; one, January 7, also taking two terms' work; and one commencing February 14, continuing for a single term. The first two of these finished the special course in wood-work designed for outside classes, and are in a position to take up iron-work next year; the last class has still a term's work in turning before finishing the wood-working course.

The evening class in carpentry commenced October 1, spent one term on bench-work, and took up turning during the second term. A smaller second class began bench-work January 2.

The first evening machine-shop class started October 29, spending three months at bench-work and three at the tools. This class ended May 10. The second class commenced February 13, and worked until May 10 on bench-work.

A ladies' class in wood-working, composed of members of the carving class, commenced January 21, and worked for two terms.

The character of the work accomplished in the different shops has been, **on the whole**, good. In all there have been weak points and opportunities for improvement.

The work done during the year, with the exception of machine work classes, amounts to about one year and a half of the regular course shop work, and the exhibit of work from June 29 to July 3 gives a fair idea of the ground covered in that period.

The experience of the past year has enabled us to elaborate the different courses of work and to prepare the many details of equipment for their prosecution. The courses are now complete in the main, but only the work of succeeding years will refine them into final shape. The exercises of all the courses

will soon be put into the form of blue prints, and made available in the best shape for our own and outside use.

The object of the major part of the mechanic arts work being educational, it is of vital importance that a thorough comprehension should accompany each step of the work. To further this end, it has been the endeavor to most thoroughly emphasize the principles of tool operation, assisting this by the use of models and drawings, and to carry along with the shop work lectures on the properties and production of the materials dealt with. To enforce the importance of this matter, examinations were held at the end of the year in each of the shop branches. The examinations were somewhat severe, but the result showed what is very apt to be, and what has been, the weakness of shop practice in manual training schools, viz., a lack of thorough comprehension of the operations performed.

To still further develop this principle, *i. e.*, thorough comprehension of each thing done, it is proposed to make the study of elements of mechanism and principles of construction a part of the regular course. It is believed that these subjects form an essential part of any educational course which deals with the operations of tools and machines, and that sufficient attention has not as yet been given to them.

The character of the evening shop-classes has shown that the demand there is distinctly for trade instruction, and must be dealt with as such. We are not prepared in equipment, nor, it is believed, in purpose, to take up this work at length; but, judging from the experience of this year, and from the adverse conditions prevailing in trade apprenticeship, we can do helpful and needed work in giving a thorough general, but elementary, training in at least the wood-working and machine-shop branches.

It is hoped that in this field we shall soon be able to commence an evening class in the study of elements of mechanism, and principles of construction, for apprentices, young mechanics, draughtsmen, etc.

The number of pupils in the department has been as follows:

Second year class (Technical High School),	. . . . .	13
First year class	“ “	27
First afternoon class,	. . . . .	25
Second afternoon class	. . . . .	24
Third afternoon class,	. . . . .	23
First evening class, wood-work,	. . . . .	19
Second evening class, wood-work,	. . . . .	11
First evening class, machine-work,	. . . . .	13
Second evening class, machine-work,	. . . . .	7
Total,	. . . . .	<u>162</u>

DEPARTMENT OF PHONOGRAPHY AND TYPE-WRITING.

This department was organized for the purpose of giving to persons wishing to become shorthand amanuenses a more thorough training than has heretofore been done.

The art of shorthand writing is no new thing, as is commonly supposed, for it has been known and practiced to a considerable extent for the past three hundred years, and was in use in the Roman Empire prior to the Christian era. Its application for commercial purposes, however, has been of but recent date, and the demand for competent shorthand and type-writing amanuenses has been steadily increasing. This demand has induced many persons to undertake the study who were otherwise unqualified to achieve success as practitioners, and in order to accept only those who gave promise of success we have made it obligatory upon all to pass an examination in language and orthography.

On account of the limited room at the disposal of this department, instruction has been confined exclusively to the even-

ing, except to a portion of the type-writing pupils, and the number of students was, therefore, restricted, but in view of the fact that there are many advantages connected with day instruction which would tend to give greater satisfaction, not only to pupils, but to the Institute, it is recommended that day instruction be given during the coming year.

The first class in phonography was started February 28, 1888, with thirty-five pupils; twenty-eight lessons were given, and the average attendance for the term was ninety per cent. The classes in type-writing were not organized until the beginning of the school year 1888-9. During this year we had, in phonography and type-writing, 69 pupils during the first term, 110 during the second term, and 66 during the third term, making a total of 245 for the year. The decreased number for the third term is accounted for by the fact that no new pupils, except a few in type-writing, were accepted, the classes being continued to accommodate those who wished to attend. The average attendance for the three terms was 64, 97 and 53, respectively. The shorthand classes have met on Monday and Friday evenings. The evening type-writing classes have met on the same days, but the day students in type-writing have been allowed to practice four hours daily. As two evenings per week is not sufficient to make satisfactory progress in type-writing, it is recommended that at least three evenings per week be allowed for this purpose during the coming year.

The opinion is quite universal that it is a very easy matter to become a type-writer operator, and all that is required is a knowledge of the key-board and a little practice in writing, to enable one to take a position. While this may have been partially true a few years ago, the demand upon type-writers is becoming more and more exacting, requiring increased speed, more accurate work and greater intelligence on the part of the operator. In order to prepare persons to fully meet these requirements, it would be advisable to have a special course of study in gram-

mar and spelling, to be taken in connection with our course in shorthand and type-writing. A fair knowledge of composition and spelling, which is a requisite for entrance to the classes, together with the practice obtained in all kinds of commercial correspondence, the copying of specifications for construction, deeds, mortgages, agreements, law work, insurance, etc., would fit a person to satisfactorily fill any position, no matter how exacting.

Much misapprehension is also prevalent regarding the time necessary to become proficient in shorthand, many persons believing that it can be acquired in from two to three months. The usual length of time required to write sufficiently fast to fill a position as an amanuensis is about nine months, which period would also embrace the time necessary to become a fairly-expert type-writer operator.

On the whole, the progress of the pupils in this department has been very satisfactory, and it is pleasant to report that many of them have already secured and are satisfactorily filling positions as amanuenses. We have endeavored to make the instruction thorough, and, above all, practical. Still, the work can be made much more comprehensive, with increased profit to all concerned. This would, however, require more time on the part of the instructors, but the results would justify any increased expense of labor.

The teachers, four in number, have been faithful, efficient, and much interested in the work.

In connection with this department, it may be proper to suggest for consideration the advisability of establishing a Department of Commerce, when the necessary room can be allotted it. Such a department would embrace phonography, type-writing, book-keeping, penmanship, telegraphy, commercial law, commercial geography, possibly German and Spanish, or any kindred practical subjects which would be beneficial in the conduct of commercial enterprises. While there may be many schools of

this character already in existence, yet there is a demand for thorough, practical instruction such as the Institute would be able to give.

The leading practical educators of England, whose greatness is due to her commercial supremacy, strongly advocate the establishment of schools of this kind. Sir Philip Magnus, a recognized authority upon subjects of the kind, says in his recent work, entitled "Industrial Education:"

"When we hear, as we often do, successful manufacturers and merchants speak discouragingly of the importance of commercial education, and tell us how, sent into the factory or office at an early age, they there acquired the practical experience to which they ascribe their fortune, we cannot but feel that such men overlook the fact that the conditions under which trade is now carried on are wholly different from what they were fifty years ago; and it is owing to this difference that a different and special kind of training has become indispensable. No one can contemplate the changes which have taken place during the present half-century without realizing their leveling influence upon the development of commerce, and the growing importance, as a factor of mercantile success, of that wider knowledge which enables those engaged in commerce to understand and to take advantage of all favourable conditions in the conduct of business operations."

VOCAL MUSIC.

This department was created November 1, 1888, the object being to encourage the practice of singing among the masses of the people. With the introduction of Tonic Sol-fa, which is the medium used, music has dropped the exclusive character it has had so long, and now all who are not afraid of a little earnest study can be admitted to the great advantages of singing.

Classes are held both day and evening. Two important auxiliaries towards the attainment of the object of the department are Normal Training classes and a Choral Society.

The Normal classes are intended for teachers, or those aspiring to teach vocal music in schools and musical societies.

The Choral Society will afford members of the previous classes an opportunity to put the knowledge and skill they have obtained to practical use, as well as to encourage a love for the best class of choral music.

During the past season we have had eight classes—six for beginners (junior grade), one for elementary grade, and one normal class. In addition, the pupils of the Technical High School have received instruction, and late in the season we were enabled to form a Choral Society.

There have been nearly five hundred pupils enrolled in the various classes, a large proportion of whom were pupils in other departments who were allowed to enter free. But free tuition is a mistake; it needs to be accompanied by compulsory attendance. Among the number were public and private school teachers, teachers of music, and persons engaged in occupations of all kinds.

More than 180 lessons were given, aggregating about 220 hours. Over 250 individual examinations for certificates were conducted, varying from five to fifteen minutes each; 201 of these examinations resulted in pupils taking certificates of various kinds. In addition, a considerable number of theoretical papers has been examined.

DAY AND EVENING CLASSES.—The following classes were organized during the year :

An evening class on Tuesday, October 23; membership, 70; number of lessons, 20.

A class on Tuesday morning, November 27, 37 members, 17 lessons.

A class on Thursday afternoon, November 22, 56 members, 20 lessons.

A class on Thursday evening, November 22, 60 members, 20 lessons.

A class on Wednesday afternoon, January 16, 1889, 68 members, 12 lessons.

A supplementary class on Thursday evening, January 16, 6 lessons, 20 members.

An elementary class on Wednesday, April 10, 36 members, 10 lessons.

A junior class on April 5, 11 lessons, 17 members.

NORMAL TRAINING.—A class to study the art of teaching commenced on March 20 with 15 members, 24 lessons, This was a very successful class. The 12 members who continued till the end succeeded in taking 36 certificates of various grades.

THE TECHNICAL HIGH SCHOOL.—The 38 pupils of this department, after a course of 30 lessons, took the junior examination, and all but three have received the certificate.

CHORAL SOCIETY.—This society was formed April 9, 1889, of those persons who had been successful in their various classes. There were about 65 members.

It is intended that this shall be a thoroughly-efficient musical organization, to which no one will be admitted who cannot pass the prescribed examination.

TECHNICAL MUSEUM.

Although this report is, strictly speaking, only for the year ending July 1, 1889, it seems best in preparing it to glance for a moment at the work that has been done in this department since its beginning.

In the June of 1887, Professor Nason, of Troy, went to Europe for the purpose of collecting material with which to form a technical museum for Pratt Institute. He spent the summer in buying specimens in England, Holland, Belgium, Germany, Austria, Italy, and France, and returned early in September to America. He brought with him Dr. J. F. Williams, who was to act as his assistant and as curator of the Museum.

The collection made by Professor Nason began to arrive

early in the autumn, and was packed away on the fifth floor of the Institute, the place which was designed for its final reception.

The specimens consisted of examples of the finest grades of foreign glass, porcelain, earthenware, bronzes, artistic ironwork, enamels, etc., all of which were calculated to show the highest point to which the artistic conceptions of the designer could be carried in each of these branches. In addition to these, Professor Nason brought over a small but comparatively complete set of minerals and rocks from foreign countries, with the idea that this could be supplemented and enlarged by the addition of specimens from our own country, and that the whole would represent the basis from which almost all the inorganic materials used in the arts are derived. Having also in view the introduction of a course of instruction in mineralogy and geology, Professor Nason brought over full sets of crystal models, made of both wood and glass.

The fifth floor of the Institute had up to this time been left undivided, but as soon as Professor Nason arrived the plans were drawn, and by the first of January, 1888, the necessary partitions had been completed. Up to this time, Dr. Williams had been kept busy in the Rensselaer Polytechnic Institute, in Troy, in picking out and preparing specimens for the Institute, under Professor Nason's direction.

At the end of the school year the collection contained the following number of specimens: minerals and rocks, about 3,800; technical specimens, about 1,500; pictures, maps, etc., about 40. Total, 5,340.

During the summer of 1888, Professor Nason again went abroad, and brought back a number of specimens of lace and embroidery, which form the nucleus of the textile fabric collection.

It has been decided to open the museum during the next school year as follows: Monday and Friday, 7:30 to 9:30 P. M.; Wednesday, 3 to 5 P. M.

From the first of November, 1888, when the museum was opened to the public, up to the end of June, a careful record of the number of visitors has been kept. The following are the figures: Number of times opened, afternoons, 29; evenings, 36; total, 65. Total number of visitors, afternoons, 1,403; evenings, 1,021; total, 2,424.

This, however, does not give by any means the total number of people who have used the museum during the year, for there are a large number of visitors—both students and the public—who are admitted every day, although the museum is not regularly open. The number of such irregular visitors is certainly not less than 3,000 during the year.

During the exhibition days and evenings the visitors spend in the museum nearly half the time allotted to the inspection of the buildings, and as the number of visitors at such times has been about 7,000 during the year, the total number of people who have had the use of the museum since it was opened amounts to at least 12,500.

During the year that has just passed there have been added about 1,500 specimens. These have been very varied in kind, and have been intended, in some cases, to fill out and carry forward what had already been begun in some special department of the collection, and in other cases to make a beginning and indicate the lines to be followed in filling out some other department less advanced than the preceding.

Without entering too much into detail, an example of the first class may be found in the iron case. The ground had been staked out by a few isolated specimens, such as a piece of ore here or a bit of pig-iron there, but there was no consecutive story told and no object lesson to be learned from the case. Through the kindness of some of the largest iron and steel firms of the country, this collection has been filled out until it is comparatively complete; there are, of course, still some holes left, but these are such as can be filled up gradually. At present

a student, by carefully examining the case and reading the labels, can follow the manufacture of iron or steel, from the ore to the pig-iron, and thence in any one of the three branches into which the products may be divided, viz., cast-iron, wrought-iron, and steel, to the completed article, be it a cast-iron plate, a wrought-iron candlestick, or a steel watch-spring.

As an example of the second class of work which has been accomplished, the foundation of the textile fabric collection may be taken. The few pieces which have already been collected are scattered over a very broad field. There are a few pieces of lace of modern manufacture, which should be carried on to include all kinds of lace, both old and modern, hand and machine made; and a few specimens of embroidery from various countries, which should be increased to form a characteristic collection of the materials and styles of design of as many countries and periods as possible. In the textile fabrics proper—that is the woven cloths themselves—the collection should show the different kinds of cloth made from each material, and indicate the peculiarity of the weaving and use to which it is principally applied in each case.

The general aim is to show the gradual development from a raw or crude material to an artistic and finished product. In many cases, however, this is not possible, from the fact that the completed product is not in any way artistic, but has an equal claim to be recognized from a useful standpoint; thus, for example, the steps in the production of caustic soda and alum from cryolite and Spanish pyrite are of as much interest and use to the student as if the soda or alum were a beautiful piece of porcelain or exquisite specimen of lace.

In conclusion, the work of the year appears to have been comparatively successful in filling up the holes and increasing the usefulness of the museum, in opening it to a large number of people and exciting their interest and curiosity in things to which they had never before given a thought, and in placing at the disposal of the students a place where they can examine and

study objects and processes which they could otherwise only know by description or picture.

LIBRARY AND READING ROOM.

In reading the first report of the library of Pratt Institute it must be remembered that the library forms but a part of a large organization which has only just begun its work, and that the thought and efforts of its founder, instead of being concentrated upon this one part, have been forced into many departments of equal importance.

The comprehensive nature of the work of the Institute and the multitude of other interests involved have prevented the library from putting into execution all the contemplated plans for its development, yet there has been constant growth and unbounded interest during the entire year, and the enthusiasm displayed in all other departments is marked, to an equal degree, in the library.

It was at first intended to establish a library solely for the use of members of the Institute—a library devoted chiefly or entirely to mechanical, scientific and art works; but its scope has been enlarged in order to make its influence as far-reaching as possible. In pursuance of this idea the library is general in character, and while those departments most intimately related to the work of the Institute may be especially strong, yet others will be found abundantly supplied with standard works.

The reading-room was opened to the public on the evening of January 4, 1888, and at that time contained about 150 of the best American and English periodicals—scientific, mechanical, religious, literary and general. A portion of the reading-room is set apart for a reference department, where are placed the books most often needed for consultation—the dictionaries, cyclopædias and general reference books.

The circulating department of the library was formally

opened to the public on the first of February, 1888. At this time there were about 10,000 volumes upon the shelves ready for use, and about 2,000 more in the hands of the cataloguers. The books comprising the nucleus of this collection have been selected with great care and fairly represent the following classes: bibliography, philosophy, religion, sociology, philology, science, useful arts, fine arts, literature, biography, history, travels.

A brief author catalogue was started for the use of the public, and a fuller official catalogue of the books upon the shelves was already prepared. Type-written class lists were placed upon the tables in the delivery room to assist readers in making their selections of reading matter. Up to July 1, 1888, 3,284 persons had registered their names as members of the library, and had received cards entitling them to the privileges of the library and of the reading-room.

The use of the library is entirely free, and is extended to all residents of Brooklyn over 14 years of age. It is recommended that the age limit be changed to 12 years, upon condition that borrowers between the latter age and 14 be allowed to draw books from the library only under the supervision and direction of the library authorities.

The aim and policy of the founder is to establish not only a popular free circulating library, but more especially to build up a valuable collection of reference material for the students, and to afford the necessary resources to those who are pursuing special lines of study. A number of persons engaged in literary and professional work have already availed themselves of the privileges of the library, and are constant visitors to the reading-room.

The library is also an indispensable appendix to the various departments of the Institute, the art student, the designer, the mechanic, the dressmaker and the housekeeper, each drawing upon its resources for material to aid in the pursuit of his

studies. The heads of the departments, wisely supplementing their instruction by judiciously recommending to their classes lines of special reading upon the subject in hand, and constantly referring the pupils to the library, thus teach them the invaluable habit of independent research and investigation. In the departments of Art, Domestic Science, Mechanic Arts, the Technical Museum, etc., many of the books most frequently needed for reference are shelved in the rooms of the department itself, so as to be easily available and save even the trouble of visiting the library for the purpose of consultation. These books are also duplicated in the general library for the use of the public. Valuable assistance in the selection of books is also rendered by those in charge of the different departments of the Institute, as they are constantly upon the alert to secure what is best in the literature of their specialties, and to recommend its addition to the library.

Every measure adopted for the present or future conduct of the library has in view the one predominating object of helpfulness; and not only is this spirit of helpfulness manifested in the policy of the trustees in charge of the library's management, but it is also characteristic of each member of the library staff in the discharge of the duties involved in carrying on the library work.

The reading-room connected with the library is large, comfortable and well lighted. All periodicals and newspapers are kept on file for the accommodation of readers.

The reference department of the library, comprising dictionaries, encyclopædias, etc., to the number, at present, of about 300, is so arranged that those wishing to consult these books have free access to the shelves. The advantages of this arrangement are so evident that they need not be mentioned. The disadvantages are the occasional loss of a book, resulting from the privilege of unrestricted consultation, and the difficulty of keeping any statistics as to the frequency of the use of these

books. To know, however, that a work of reference has been used whenever it was wanted is a more gratifying knowledge than the mere fact that it has been used a certain number of times. The spirit of investigation which it is the fond aim of a library to inculcate and foster is a very shy and tender thing in its incipient stages, and will often turn and flee from the simplest formality—even the filling out of a blank order for a volume of the encyclopædia. It is especially desired to make the reference department useful and helpful; and to have in charge of it persons thoroughly competent to judiciously guide the investigator in the best methods for looking up his subject, and to assist him by placing the resources of the library at his disposal.

CLASSIFICATION.—The system of classification by which the books are placed upon the shelves is that devised by Mr. Melvil Dewey, of the Albany State Library. It has been thought advisable, however, in adopting this system to use the decimal point only in the class of travels and in United States and state history. With one or two exceptions the other classes are designated by three figures only. In fiction the plan suggested by the author of the decimal classification and used by several other libraries has been satisfactorily followed, namely: to use a single figure to designate the nationality, 1 meaning American fiction; 2, English; 3, German; 4, French, etc.

CATALOGUES.—A brief author catalogue of all the books upon the shelves of the library, kept upon the postal-size bristol cards, is placed in the delivery room for consultation by the public. In this catalogue the biographical cards are arranged in a separate alphabet, according to the subject of the biography. An official card catalogue, containing fuller entries, is also kept. Both catalogues are made in accordance with the American Library Association rules, and are written in the library hand. Type-written class-lists are placed upon the tables in the delivery room and are revised and rewritten from time to time, so that

they may be kept up to date. As the library is adding new books rapidly at present, it is thought advisable not to issue a printed catalogue, or finding list, for a few months at least; but it is hoped that the patrons of the library will soon be furnished with lists which can be taken home, and thus permit of more leisurely and satisfactory consultation.

GIFTS.—A number of friends have already manifested their interest in the library by gifts of books, pamphlets, magazines, public documents, etc.

HOURS FOR OPENING.—The library is open on all secular days from 9 A. M. until 6 P. M., and on Wednesday and Saturday evenings until 9:30 o'clock. The reading room is open from 9 A. M. to 9:30 P. M. on all week days. The question of Sunday opening is one that is now being advocated, and although the matter has not been definitely settled, the probabilities are that the reading room will be thrown open to the public for at least a part of the day on Sundays.

Upon opening the library it was thought best to allow the members' cards to run for one year from date of issue, and to require renewal at the end of that time. The duration of the term has since been extended to two years. At the end of this time the borrower returns his old card, fills out a blank application as before, and receives a new card. Borrowers are not required to re-register, and they retain the same folio or registration number during their connection with the library. An alphabetical index of borrowers is kept upon slips, and also one of the guarantors, or those who have signed the borrowers' applications as security.

CHARGING SYSTEM.—The charging system is by means of the book-cards, under date. Works of fiction may be kept out seven days, other books fourteen days. A fine of two cents per day is charged for retention beyond the time specified in the rules.

SHELVING CAPACITY.—It has been necessary, in view of the increasing number of volumes in the library, to appropriate a portion of the reading-room for shelving purposes. Eight new cases have been placed in the east end of this room, and, it is thought, will accommodate the accessions for some time to come.

The number of subscribers registered from July 1, 1888, to July 1, 1889, was 3,206. The total number registered to July 1, 1889, was 6,490.

There were on the shelf, July 1, 1889, 16,189 volumes, and about 3,000 more volumes in the hands of the cataloguers. The number of volumes sent to the bindery from the date of opening, February 1, 1888, up to July 1, 1889, was 459.

The following table will show the record of circulation from February 1, 1888, to July 1, 1888.

CIRCULATION FEB. 1, 1888, TO JULY 1, 1888.

	Feb.	March	April	May	June	TOTAL
Bibliography, periodicals, etc.,	2	6	14	19	30	71
Philosophy,	31	51	60	70	55	267
Religion,	53	77	66	76	59	331
Sociology,	48	102	141	97	85	473
Philology,	3	5	8	2	8	26
Science,	126	213	223	207	153	922
Useful arts,	129	244	241	250	207	1,071
Fine arts,	133	192	232	199	136	892
Literature,	151	282	329	327	240	1,329
Fiction,	2,390	4,858	4,932	5,451	4,945	22,576
Travels,	320	639	556	522	470	2,507
Biography,	112	254	201	176	146	889
History,	196	400	406	368	245	1,615
TOTAL,	3,694	7,323	7,409	7,764	6,779	32,969
AVERAGE DAILY,	154	282	296	298	261	258

CIRCULATION JULY 1, 1888, TO JULY 1, 1889.

	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	May	June	TOTAL
Bibliography, periodicals, etc., . . .	8	26	19	19	21	33	49	67	69	47	43	29	430
Philosophy, . . .	57	39	69	80	67	75	70	78	87	62	50	45	779
Religion, . . .	32	36	46	63	78	84	74	78	70	69	69	65	764
Sociology, . . .	67	40	63	66	105	86	85	95	95	78	87	73	940
Philology, . . .	5	5	8	9	5	3	10	7	16	8	5	13	84
Science, . . .	101	86	113	167	176	194	242	229	252	226	198	157	2,151
Useful arts, . . .	133	121	140	200	196	200	226	239	242	201	216	160	2,274
Fine arts, . . .	95	83	92	150	161	175	223	185	187	165	156	117	1,789
Literature, . . .	172	173	212	343	430	402	414	359	440	552	375	245	3,917
Fiction, . . .	4,020	3,943	4,432	5,307	5,436	5,464	6,455	6,044	6,776	5,925	6,030	4,988	64,820
Travels, . . .	303	288	291	489	547	475	491	477	587	449	503	453	5,353
Biography, . . .	125	129	108	187	205	182	296	297	370	304	306	212	2,721
History, . . .	217	173	195	360	401	296	369	327	429	335	294	232	3,628
TOTAL, . . .	5,335	5,142	5,788	7,440	7,828	7,669	9,004	8,482	9,620	8,221	8,332	6,789	89,650
AVERAGE DAILY, . . .	222	190	241	313	326	307	346	369	370	343	320	271	301

From this table it will be seen that the number of volumes issued for home use from July 1, 1888, to July 1, 1889, was 89,650; the largest circulation for any one month was for March, 1889—9,620 volumes. The average daily circulation was 301, and the largest daily circulation was 583—Saturday, April 20, 1889.

The following list will show the recorded use of certain books up to July 1, 1889. It is by no means a record of *comparative* use, as some of the books have been in the library but a short time; some are represented by a number of copies, against one copy of another work in the list; some are allowed to be kept out fourteen days and others only seven; some have been out of circulation and in the hands of the binder for greater or less length of time; and, altogether, while these statistics are of some interest as a clue to a book's popularity, yet, as already stated, they do not represent as much as they seem to on their face:

		Number of times taken out.
Abbott.	Life of Washington	29
“	Mary, Queen of Scots	20
Alcott.	Little women	188
American girl's handy book		45
Ayers.	Practical electricity	32
Balzac.	Cousin Pons	45
Bolton.	Girls who became famous	48
Burnett.	Little Lord Fauntleroy	148
Cable.	Grandissimes	68
Coffin.	Boys of '76	107
Craik.	John Halifax	118
Cross.	Daniel Deronda	84
“	Romola	88
Dickens.	David Copperfield	138
“	Little Dorrit	116
Drummond.	Natural law in the spiritual world	26
Farrar.	Life of Christ	30
Grant.	Memoirs	18
Hawthorne.	House of seven gables	75
“	Scarlet letter	68

Howells.	Their wedding journey	62
Jackson.	Ramona	141
Knox.	Boy travelers in South America	60
Lamb.	Tales from Shakespeare	21
Lanier.	Boys' Froissart	19
Roper.	Young engineer's own book	20
Ruskin.	Stones of Venice	22
Schley and Soley.	Rescue of Greely	22
Scott.	Bride of Lammermoor	80
"	Ivanhoe	74
Spencer.	Education	13
Stanley.	Through the dark continent	28
Tolstoï.	Anna Karénina	86
"	My religion	29
Thackeray.	Vanity fair	132
Verne.	Around the world in eighty days	64
Wallace.	Ben Hur	181
Ward.	Robert Elsmere (from January, '89)	36

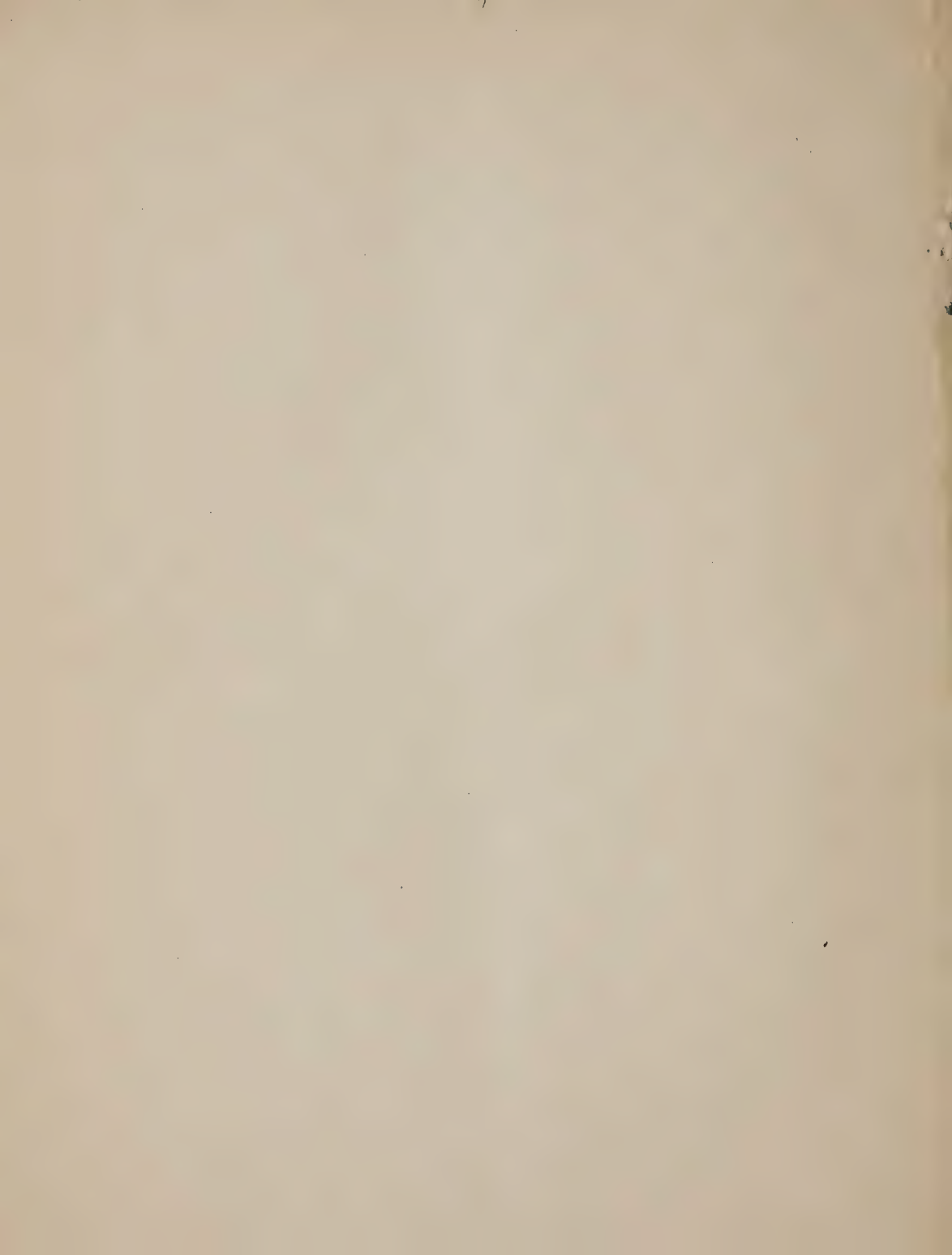
The privileges of the library have been extended to the residents in the Astral apartment house in Greenpoint. In the basement of this apartment house is a spacious, well-ventilated and well-lighted reading room, 39 x 40 feet. This room was fitted up with a large and artistic fireplace, steam heat and electric lights, and all the comforts capable of giving it a homelike appearance were provided for the use of its occupants. In April the branch took possession of the room, and books have been delivered to the people by messenger once a week since then. The number of volumes sent, up to July 1, amounted to 154.

The Astral reading room is supplied with the leading standard periodicals, and its patronage by the families residing in the building has averaged about 1,000 per month. There is a large field for usefulness in this part of the city, and from its location and accessibility this branch may become an important center of distribution.

As a special aid to the students in the Technical High School, a list of parallel readings in English history, and also one in

physical geography have been prepared and bulletined in the delivery room, and a similar but more extensive list on United States history is now in process of compilation.

The cataloguers are preparing a title catalogue upon the cards, which will be placed at the disposal of the public as soon as possible and which will greatly facilitate the ready finding of books desired. In all cases the attendants themselves are ever ready to furnish information, to assist the reader where he needs assistance, and to place the resources of the library at the disposal of the public.



TO OUR READERS:

If you are interested in the work of any department of PRATT INSTITUTE and desire future publications sent you, please fill out and return coupon herewith, addressed to F. B. PRATT, SECRETARY, PRATT INSTITUTE, BROOKLYN, N. Y.

I have read "Founder's Day" copy of PRATT INSTITUTE RECORD, and would be pleased to have you forward me from time to time any printed matter relating to the general work of the Institute. I am more particularly interested in the _____ Department.

Name, _____

Street, _____

Date, _____ 18 _____ City, _____

Occupation, _____ State, _____

I have read "Founder's Day" copy of PRATT INSTITUTE RECORD, and would be pleased to have you forward me from time to time any printed matter relating to the general work of the Institute. I am more particularly interested in the _____ Department.

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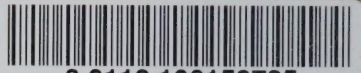
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